Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

51. (Currently Amended) A device constructed for immobilizing bio-material capable of being associated with a fluorophore tag or luminescent tag for optically-stimulated fluorescent emission analysis or for luminescence analysis, comprising a coating ~~layer~~ of nitrocellulose polymer of thickness less than 5 micron, the coating adhered to a rigid support via one or more adherent intervening layers comprising at least an adherent metal oxide intervening layer, the ~~layer of~~ nitrocellulose coating having an outer deposit-receiving surface that has enhanced binding capability for the bio-material as the result of exposure of the coating surface to corona treatment, ~~in treated state for enhanced immobilization of the bio-material~~ and a deposit of the bio-material immobilized on the corona-treated surface of the nitrocellulose coating.

52. (Currently Amended) The device of claim 51 in which the nitrocellulose coating ~~layer~~ is microporous.

53. (Currently Amended) The device of claim 51 in which the nitrocellulose coating ~~layer~~ is a solid film ~~of thickness less than about 1 micron~~.

54. (Currently Amended) The device of claim 53 ~~51~~ in which the solid film is ~~between about 0.1 and 0.5~~ less than 3 micron in thickness.

55. (Currently Amended) ~~The device of claim 51 in which the~~ A device constructed for immobilizing a bio-material capable of being associated with a fluorophore tag or luminescent tag for optically-stimulated fluorescent emission analysis or for luminescence analysis.

comprising a coating of nitrocellulose polymer of thickness less than 5 micron, the coating adhered to a rigid support via one or more adherent intervening layers, the nitrocellulose coating having an outer deposit-receiving surface that has enhanced binding capability for the bio-material ~~treated state of the outer surface of the layer is~~ as the result of exposure of the coating surface to an energetic surface-altering ~~condition~~ treatment, and a deposit of the bio-material immobilized on the treated nitrocellulose surface.

56. (Currently Amended) The device of claim 55 in which the treated ~~state~~ surface of the nitrocellulose coating is the result of exposure of the surface to corona treatment.

57. (Currently Amended) The device of claim 55 in which the treated ~~state~~ surface of the nitrocellulose coating is the result of exposure of the surface to charged particles.

58. (Currently Amended) The device of claim 55 in which the treated ~~state~~ surface of the nitrocellulose coating is the result of exposure of the surface to gamma radiation.

59. (Currently Amended) The device of claim 55 in which the treated ~~state~~ surface of the nitrocellulose coating is the result of exposure of the outer surface to at least one of corona treatment, flame treatment, bombardment by charged particles comprising electrons, ions or sub-atomic particles, or electromagnetic radiation of ultraviolet, gamma or X-ray wavelength.

60. (Currently Amended) The device of claim 51, 55 or 59 in which the nitrocellulose coating ~~layer~~ is a dried residue of a coating solution of nitrocellulose and a volatile solvent.

61. (Currently Amended) The device of claim 60 in which the ~~layer of~~ nitrocellulose ~~comprises a drawn~~ coating is the product resulting from the process of immersing the rigid support in a bath of the coating solution and progressively drawing the rigid support from the bath under conditions in which the solvent evaporates during the drawing.

62. (Currently Amended) The device of claim ~~51~~ 55 or 59 in which ~~an~~ said intervening layer is comprised of an adherent metal oxide or a silicon-based material.

63. (Currently Amended) The device of claim 51, 55 or 59 in which ~~an~~ said intervening layer is comprised of tantalum oxide.

64. (Previously presented) The device of claim ~~51~~ 55 or 59 in which ~~an~~ said intervening layer is comprised of silane.

65. (Currently Amended) The device of claim ~~51~~ 55 or 59 in which the rigid support is of glass and ~~an~~ said adherent intervening layer is ~~an adhesion-promoting layer~~ comprised of silane, epoxy silane, polylisine, PEI, GAP, an adherent metal oxide, colloidal silica or a soluble silicate.

66. (Currently Amended) The device of claim 51, 55 or 59 in which the rigid support is substantially transparent and ~~an~~ a said intervening layer is substantially opaque.

67. (Previously presented) The device of claim 66 in which the substantially opaque intervening layer is comprised of tantalum oxide.

68. (Currently Amended) The device of claim 51, 55 or 59 in which the outer surface of the ~~layer of~~ nitrocellulose coating and the immobilized bio-material thereon is ~~constructed and~~ arranged to be exposed from the exterior for ~~illumination~~ optical stimulation of a fluorophore tag associated with the bio-material ~~of~~ and analysis of resultant emission from the fluorophore tag ~~from the exterior~~, the rigid support being substantially transparent and the one or more intervening layers being collectively sufficiently opaque to substantially block, from entering the

rigid support, radiation of wavelengths corresponding to the stimulating and emission wavelengths of a the fluorophore tag associated with the immobilized bio-material.

69. (Currently Amended) The device of claim 51, 55 or 59 in which the rigid support, the one or more intervening layers and the ~~layer of~~ nitrocellulose coating collectively are functionally transparent to light to enable optical excitation of a fluorophore tag associated with the ~~a~~ deposit of bio~~logical~~-material on said coating ~~outer surface~~ by excitation radiation passing through said rigid support, or to enable microscopic analysis through said rigid support of optically-stimulated fluorescent emissions passing from a fluorophore tag associated with the a deposit of bio~~logical~~-material on said coating ~~surface~~, or to enable both.

70. (Currently Amended) The device of claim 69 in which ~~an~~ a said intervening layer is functionally transparent silane or functionally transparent tantalum oxide.

71. (Currently Amended) The device of claim ~~51~~ 55 or 59 in which an intervening layer is a ~~drawn~~ coating comprising the product resulting from the process of immersing the rigid support in a bath of a coating solution comprising the material of the intervening layer and a solvent and progressively drawing the rigid support from the bath under conditions in which the solvent evaporates during the drawing.

72. (Currently amended) The device of claim 51, 55 or 59 in which the outer surface of the ~~layer of~~ nitrocellulose coating on the rigid support is generally flat, arranged to receive deposit of a spotted array of the bi~~ological~~-material.

73. (Currently Amended) The device of claim ~~51~~-72, including an array of spots of bio-material deposited on the ~~layer of~~ nitrocellulose coating.

74. (Previously presented) The device of claim 73 in which the array of spots of biomaterial comprises protein, peptides, antibodies, viruses, or nucleic acid or other genetic material, receptors, cDNA clones, DNA probes, oligonucleotides including synthetic oligonucleotides, or polymerase chain reaction (PCR) products, or plant, animal, human, fungal or bacterial cells, or malignant cells or cells from biopsy tissue.

75. (Currently Amended) The device of claim 51, 55 or 59 wherein the rigid support is in the form of a microscope slide.

76. (Currently Amended) The device of claim ~~51~~ 55 or 59 comprising a ~~layer in the form of a~~ coating of nitrocellulose of thickness less than about 3 ~~1~~ micron, ~~the layer of nitrocellulose having an outer surface in treated state as the result of corona treatment or exposure to charged ions,~~ the rigid support comprising glass, the ~~layer of~~ nitrocellulose coating being adhered to the rigid glass support via an intervening ~~adhesion promoting~~ layer comprised of tantalum oxide or silane.

77. (Currently Amended) The device of claim 76 in which the nitrocellulose coating ~~layer~~ is a substantially solid film ~~of thickness between about 0.1 and 0.5 micron~~.

78. (Currently Amended) The device of claim 76 in which the ~~layer of~~ nitrocellulose ~~is a drawn~~ coating is the product resulting from the process of immersing the rigid support in a bath of a coating solution of nitrocellulose and a solvent and progressively drawing the rigid support from the bath under conditions in which the solvent evaporates during the drawing.

79. (Currently Amended) A device constructed for immobilizing a bio-material capable of becoming associated with a fluorophore tag or luminescent tag for optical emission analysis, comprising a ~~deposit receiving layer of~~ coating of a polymer capable of binding with the bio-material, the coating ~~layer~~ having a thickness less than about 5 micron, the coating ~~layer~~ of

polymer adhered to a rigid support via one or more adherent intervening layers, the ~~layer~~ coating of polymer having an outer deposit-receiving surface that has ~~in treated state for~~ enhanced ~~immobilization of~~ binding capability for the bio-material as the result of exposure of the surface to an energetic surface-altering treatment, and a deposit of the bio-material immobilized on the treated surface of the polymer coating.

80. (Currently Amended) The device of claim 79 in which the polymer ~~layer~~ is selected to immobilize protein material or cellular bio-material and the deposit on the coating is comprised of the respective material.

81. (Currently Amended) The device of claim 79 in which the treated surface ~~state~~ is the result of exposure of the outer surface of the polymer coating to corona treatment.

82. (Currently Amended) The device of claim 79 in which the treated surface ~~state~~ is the result of exposure of the outer surface of the polymer coating to at least one of corona treatment, flame treatment, bombardment by charged particles comprising electrons, ions or sub-atomic particles, or electromagnetic radiation of ultraviolet, gamma or X-ray wavelength.

83. (Currently Amended) The device of claim 79, 81 or 82 in which ~~the adhesion-promoting~~ a said intervening adherent layer between the coating ~~layer~~ of polymer and the rigid support is comprised of tantalum oxide or silane.

84. (Currently Amended) The device of claim 79, 81 or 82 in which the rigid support is of glass and ~~an~~ said intervening ~~adhesion promoting~~ adherent layer between the coating of polymer ~~layer~~ and the rigid support is comprised of silane, epoxy silane, polylisine, PEI, GAP, an adherent metal oxide, colloidal silica or a soluble silicate.

85. (Currently Amended) The device of claim 79, 81 or 82 in which the polymer coating ~~layer~~ is a dried residue of a coating solution of the polymer and a solvent.

86. (Currently Amended) The device of claim 85 in which the polymer ~~layer is a drawn~~ coating is the product resulting from the process of immersing the rigid support in a bath of the coating solution and progressively drawing the rigid support from the bath under conditions in which the solvent evaporates during the drawing.

87. (Currently Amended) The device of claim 79, 81 or 82 in which the polymer coating ~~layer~~ is of thickness less than three ~~one~~ micron.

88. (Currently Amended) The device of claim 79, 81 or 82 in which the coating of polymer ~~layer~~ is nitrocellulose or polystyrene ~~of thickness between about 0.1 and 0.5 micron~~.

89. (Currently Amended) The device of claim 79, 81 or 82 in which the outer surface of the coating of polymer ~~layer~~ on the rigid support is generally flat, arranged to receive deposit of a spotted array of bio-material.

90. (Currently Amended) The device of claim ~~79~~ 89 including an array of spots of bio-material deposited on the layer.

91. (Currently Amended) The device of claim 90 in which the array of deposited spots of bio-material comprises protein, peptides, antibodies, viruses, or nucleic acid or other genetic material, receptors, cDNA clones, DNA probes, oligonucleotides including synthetic oligonuceleotides, or polymerase chain reaction (PCR) products, or plant, animal, human, fungal or bacterial cells, or malignant cells or cells from biopsy tissue or other bio-material.

92. (Currently Amended) The device of claim 79, 81 or 82 wherein the rigid support is in the form of a microscope slide.

93. (Currently amended) The device of claim 79, 81 or 82 in which the outer surface of the coating of polymer and the immobilized bio-material thereon are ~~layer is constructed and~~ arranged to be exposed from the exterior for optical stimulation of a fluorophore tag associated with the bio-material and analysis ~~for illumination or analysis from the exterior~~, the rigid support being substantially transparent and the one or more intervening layers being collectively sufficiently opaque to substantially block light from the rigid support.

94. (Previously presented) The device of claim 93 in which the intervening layer is comprised of a substantially opaque layer of tantalum oxide.

95. (Currently Amended) The device of claim 79, 81 or 82 in which the rigid support, the one or more intervening layers, and the coating ~~layer~~ of polymer are collectively functionally transparent to light to enable optical excitation of a fluorophore tag associated with a the deposit of bio-material on said coating ~~outer surface~~ by excitation radiation passing through said rigid support, or to enable microscopic analysis through said rigid support of emissions from a fluorophore tag or luminescent tag associated with a the deposit of bio-material on said coating ~~substrate layer~~, or to enable both.

96. (Currently Amended) The device of claim 95 in which ~~the~~ a said intervening layer is functionally transparent silane or functionally transparent tantalum oxide.

97. (Currently Amended) A method of forming the device of claims 51, 55 or 79, comprising providing the rigid support with the one or more adherent intervening layers and forming thereon the polymer ~~layer as a~~ coating.

98. (Currently Amended) The method of claim 97 in which the coating is formed by applying a coating solution of the polymer and a volatile solvent to an adherent intervening layer on the rigid support, and evaporating the solvent to form the coating layer as a dried residue of the polymer.

99. (Currently Amended) The method of claim 98 in which the coating is applied to the support by immersing the rigid support in a bath of the coating solution and progressively drawing the support from the a bath of the coating solution under conditions in which the solvent evaporates during the drawing.

100. (Previously presented) The method of claim 97 followed by subjecting ~~exposing~~ the exposed surface of the coating to an energetic surface-altering treatment to enhance the binding capability ~~immobilization properties~~ of the coating for the bio-material.

101. (Currently Amended) The method of claim 100 in which the treatment is ~~treatment by corona or charged ions~~ corona treatment, flame treatment, bombardment by charged particles comprising electrons, ions or sub-atomic particles, or electromagnetic radiation of ultraviolet, gamma or X-ray wavelength.

102. (Currently Amended) A method of emission analysis comprising providing the device of claim 51, 55 or 79, including applying said bio-material as an array of spots of material to the outer deposit-recciving surface of the polymer coating ~~layer~~, conducting an assay which tags at least some of the spots with a fluorescent or luminescent label, and, after washing the array, reading the array by optical detection.

103. (Previously presented) The method of claim 102 in which reading is accomplished by a CCD sensor.

104. (Currently Amended) ~~A~~ The device of claim 79 constructed for immobilizing bio~~logical~~-material in the form of protein bio-material or cellular bio-material ~~and enabling analysis of optically stimulated light, the device comprising a polymer substrate layer having biological immobilizing properties, the substrate layer deposited on a rigid support and having an outer deposit receiving surface exposed to receive the biological material~~, wherein the ~~coated substrate layer~~ coating is comprised of nitrocellulose polymer or polystyrene polymer that is ultra-thin, having a thickness t_{ut} less than about ~~5~~ 3 micron, the treated surface is the result of exposure of the outer surface of the polymer coating to at least one of corona treatment, flame treatment, bombardment by charged particles comprising electrons, ions or sub-atomic particles, or electromagnetic radiation of ultraviolet, gamma or X-ray wavelength ~~its outer deposit receiving surface being in a treated for enhanced immobilization of the biological material~~, and the coating carrying a deposit of protein bio-material or cellular bio-material.

105. (Currently Amended) The device of claim 104 wherein said coating ~~substrate layer as formed~~ is a substantially transparent solid film.

106. (Currently Amended) The device of claim 51, 79 or 104 wherein an array of spotted deposits of the bio~~logical~~-material is disposed on the deposit-receiving surface for use in the performance of an assay.

107. (Currently Amended) The device of claim 104 or 105 in which the ~~substrate layer is a~~ coating ~~in the form of~~ is a dried residue of a coating solution of nitrocellulose or polystyrene and a volatile solvent.

108. (Currently Amended) The device of claim 107 wherein the ~~substrate layer is a drawn~~ coating is the product resulting from the process of immersing the rigid support in a bath of the coating solution and progressively drawing the rigid support from the bath under conditions in which the solvent evaporates during the drawing.

109. (Currently Amended) The device of claim 104 or 105 wherein the deposit-receiving surface of said coating ~~substrate layer~~ is in a corona-treated state ~~produced by an energetic surface-altering treatment~~.

110. (Currently amended) The device of claim 104 ~~and~~ or 105 wherein the deposit-receiving surface of said substrate layer is in a treated state produced by an energetic surface-altering treatment comprising exposure of the outer surface to electromagnetic radiation of gamma wavelength ~~corona treatment or other treatment by which the surface has been exposed to charged ions~~.

111. (Currently Amended) The device of claims 104 or 105 wherein a said intervening layer is of substance selected from the group consisting of silane, epoxy silane, polylisine, PEI, GAP, an adherent metal oxide, colloidal silica and soluble silicates ~~at least one intervening layer lies between said rigid support and said ultra-thin polymer substrate layer, said intervening layer adherently joined on each of its oppositely directed faces to substance of said device, the immediately adjacent substance on opposite sides of said intervening layer being not as adherent with each other as each is with said intervening layer~~.

112. (Currently Amended) The device of claim 111, wherein a said intervening layer is ~~of substance selected from the group consisting of silane, epoxy silane, polylisine, PEI, GAP, an adherent metal oxide, colloidal silica and soluble silicates~~.

113. (Previously Presented) The device of claim 111, wherein a said intervening layer is tantalum oxide.

114. (Currently Amended) The device of claim 111, wherein the rigid support has characteristic luminescence or fluorescence ~~or luminescence~~ in response to incident stimulating radiation, a said intervening layer being sufficiently opaque to be effective to at least substantially limit passage of light between the rigid support and the coating of polymer.

115. (Currently Amended) The device of claim 104 or 105 in which the coating ~~substrate layer~~ has thickness less than about 1 micron.

116. (Currently Amended) The device of claim 115 ~~104~~ in which the coating ~~substrate layer~~ is a substantially solid, substantially transparent film of thickness t_{ns} between about 0.1 and 0.5 micron.

117. (Currently Amended) The device of claim 115 ~~79~~ in which the coating ~~layer~~ of polymer is polystyrene.

118. (Currently Amended) A device constructed for immobilizing bio-material capable of becoming associated with a fluorophore tag or luminescent tag for optical emission analysis, comprising a deposit-receiving coating ~~layer~~ of substantially solid nitrocellulose of thickness less than 5 micron adhered to a rigid support via one or more adherent intervening layers at least one of which is an adherent metal oxide, the adherent intervening layer, or layers ~~being~~ collectively, being substantially opaque, the coating ~~layer~~ of nitrocellulose ~~polymer~~ having an outer deposit-receiving surface in corona-treated state for enhanced immobilization of the bio-~~logical~~-material and a deposit of the bio-material immobilized on the corona-treated nitrocellulose deposit-receiving surface.

119. (Currently Amended) A device constructed for immobilizing bio-material capable of becoming associated with a fluorophore tag or luminescent tag for optical emission analysis, comprising a deposit-receiving coating ~~layer~~ of substantially solid nitrocellulose of thickness less than ~~about~~ 5 ~~1~~ micron adhered to a rigid support via one or more adherent intervening layers at least one of which is an adherent metal oxide, the adherent intervening layer, or layers collectively, being ~~collectively~~ substantially opaque, the coating ~~layer~~ of nitrocellulose ~~polymer~~ having an outer deposit-receiving surface in surface-treated state for enhanced immobilization of

the bio-~~logical~~ material, the surface-treated state being the result of exposure of the outer surface of the coating of nitrocellulose to at least one of corona treatment, flame treatment, bombardment by charged particles comprising electrons, ions or sub-atomic particles, or by electromagnetic radiation of ultraviolet, gamma or X-ray wavelength, and a deposit of the bio-material immobilized on the surface-treated nitrocellulose deposit-receiving surface.

120. (Currently Amended) A device constructed for immobilizing bio-material capable of becoming associated with a fluorophore tag or luminescent tag for optical emission analysis, comprising a deposit-receiving coating ~~layer~~ of substantially solid nitrocellulose of thickness less than ~~about~~ 5 ~~0.5~~ micron adhered to a rigid support via one or more adherent intervening layers ~~at least one of which is an adherent metal oxide, the adherent intervening layers being collectively substantially opaque~~, the coating ~~layer~~ of nitrocellulose ~~polymer~~ having an outer deposit-receiving surface in treated state for enhanced immobilization of the bio-~~logical~~-material, the surface-treated state being the result of exposure of the outer surface to at least one of corona treatment, flame treatment, bombardment by charged particles comprising electrons, ions or sub-atomic particles, or electromagnetic radiation of ultraviolet, gamma or X-ray wavelength, and a deposit of the bio-material immobilized on the surface-treated nitrocellulose deposit-receiving surface.